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PART III

# ENVIRONMENTAL PROTECTION AGENCY

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# WASTEWATER TREATMENT PONDS

## Suspended Solids Limitations

[ 6560–01 ]

Title 40—Protection of Environment

CHAPTER I—ENVIRONMENTAL PROTECTION AGENCY

SUBCHAPTER D—WATER PROGRAMS

[FRL 769–4]

# PART 133—SECONDARY TREATMENT INFORMATION

## Suspended Solids Limitations for Wastewater Treatment Ponds

AGENCY: Environmental Protection Agency.

ACTION: Final rule.

SUMMARY: This rule amends the Secondary Treatment Information regulation to allow less stringent suspended solids limitations for wastewater treatment ponds. The amendment is based on the fact that properly designed and operated wastewater treatment ponds are a form of secondary treatment which may not be capable of achieving the suspended solids limitations contained in the Secondary Treatment Information regulation without supplemental treatment processes for removal of suspended solids (primarily algae).

EFFECTIVE DATE: November 7, 1977.

FOR FURTHER INFORMATION CONTACT:

Alan Hais, Municipal Construction Division (WH–547), Office of Water Program Operations, Environmental Protection Agency, Washington, D.C. 20460 (202–426–8976).

SUPPLEMENTARY INFORMATION: On September 2, 1976, notice was published in the FEDERAL REGISTER that the Environmental Protection Agency was proposing the amendment of the Secondary Treatment Information regulation (41 FR 37222). The Secondary Treatment Information regulation contains effluent limitations in terms of biochemical oxygen demand, suspended solids and pH which must be achieved by municipal wastewater treatment plants (publicly owned treatment works) in accordance with section 301(b)(1)(B) of the Federal Water Pollution Control Act Amendments of 1972 (FWPCA). The Secondary Treatment Information regulation was promulgated pursuant to section 304(d)(1) of the FWPCA on August 17, 1973 (38 FR 22298), and amended for deletion of the fecal coliform bacteria limitations and clarification of the pH requirement on July 26, 1976 (41 FR 30786).

Fifty-five (55) of the sixty (60) comments received in response to the proposed amendment supported adjusting the suspended solids limitations for wastewater treatment ponds. The final amendment is substantially the same as proposed, with the only significant change noted below. A number of the commenters, while agreeing in principle with the proposal, requested clarification on certain points. The responses to these and the other major comments are also discussed below.

### DISCUSSION OF MAJOR COMMENTS

#### MAXIMUM FACILITY DESIGN CAPACITY

The proposed amendment (§ 133.103(c) (special considerations) indicated, in part, that the suspended solids limitations could be adjusted for wastewater treatment ponds with a maximum facility design capacity of one million gallons per day (mgd) or less. This provision was included because the Agency believes that the supplemental treatment methods, which are often needed to achieve the suspended solids limitations of § 103.102(b) with wastewater treatment ponds, unavoidably add to the complexity of designs and may strain the operational capabilities of small communities where the vast majority of wastewater treatment ponds are used. The one million gallons per day maximum facility design capacity was based on a population of 10,000 and an average wastewater flow of 100 gallons per capita per day. A number of comments were received which indicated specific instances where wastewater flows to wastewater treatment ponds in communities of 10,000 population or less exceed one mgd. In recognition of the fact that there may be valid reasons for wastewater flows to exceed 100 gallons per capita per day, the final rule has been changed to indicate that the suspended limitations may be adjusted for wastewater treatment ponds with a maximum facility design capacity of two mgd or less.

A number of comments were also received which requested a clarification of the term "maximum facilities design capacity." As the term implies, it is the flow rate which is used as the design basis for sizing wastewater treatment facilities. In most instances design capacities are expressed in terms of annual average flows, even though there may be seasonal variations in flow rates which obviously must be accounted for in the sizing of treatment facilities.

#### APPLICABILITY OF THE REGULATION

A number of comments questioned whether the suspended solids requirements for privately or Federally owned ponds treating sanitary wastewater could be adjusted as a result of the change to 40 CFR 133. It is clear that section 304(d)(1) of the FWPCA requires promulgation of standards directly applicable to publicly owned treatment works only and therefore 40 CFR 133 is not directly applicable to private or Federal wastewater treatment ponds. However, EPA has authority under section 402 of the Act to issue permits where no effluent limitation standards have been promulgated and to fashion conditions on a case-by-case basis premised on EPA's best technical judgment. In fashioning such conditions, EPA may consider any available information. Accordingly, the provisions of § 133.103(c) may be considered as guidance in conjunction with other information in determining individual NPDES permit requirements for privately and Federally owned sewage treatment plants which are not subject to effluent limitation guidelines proposed or promulgated under sections 301, 304, and 306 of the FWPCA.

#### COMMENTS WHICH DID NOT SUPPORT THE RULE CHANGE

One commenter stated that the amendment is not consistent with the FWPCA because section 304(d) contemplates secondary treatment limitations that do not vary for different treatment processes. Two of the comments which objected to the rule change indicated that the amendment is not needed because technology is available to enable small communities to comply with the existing requirements of 40 CFR 133. Two comments also stated an objection to the amendment on the grounds that some small communities already comply or are in the process of complying with the original requirements.

The legislative history of the FWPCA indicates that secondary treatment may be considered to represent a range of removals (H. Rep. 92–911, p. 101, Leg. Hist. p. 788). Based on this concept of range, there are different subcategories of treatment technologies within the broad category of secondary treatment. In this instance which is clearly supported by historical, technical and economic data, EPA is exercising its authority to define secondary treatment through categorization. Wastewater treatment ponds, without supplementary suspended solids removal processes, have traditionally been considered a form of secondary treatment for small communities. Moreover, wastewater treatment ponds have been extensively used by small communities in such applications primarily because of their low cost and operational simplicity.

As stated in the preamble to the proposed rulemaking, methods for removing excessive suspended solids (algae) from wastewater treatment pond effluents have been developed but have not been widely demonstrated in all climatic regions of the country. The Agency was faced with the fact that there was a lack of confidence both in the capabilities of conventional pond systems and in the use of supplementary devices which would effectively rule out the continued use of wastewater treatment ponds to achieve the secondary treatment requirements in many sections of the country. The Environmental Protection Agency believes that wastewater treatment ponds play a vital role in the Nation's water pollution control strategy and that, because of their advantages of simplicity, low cost and minimal energy requirements, ponds should be retained as an option for smaller communities. The Agency also recognizes that suspended solids due to live algae in pond effluents have fundamentally and substantially different characteristics than sewage solids or solids from other treatment processes. It is for these reasons the final rulemaking is being adopted substantially as proposed. Viewed in other terms, adoption of the amendment for ponds will result in

significant economic benefits, particularly for small communities. It is estimated that the projected savings in capital construction costs alone will be in excess of one billion dollars nationwide.

In promulgating this amendment to 40 CFR 133 for small wastewater treatment ponds, however, the Environmental Protection Agency does not intend to imply that supplemental treatment devices such as rock filters or intermittent sand filters are not acceptable methods for upgrading pond performance. In many instances where ponds presently do not meet discharge requirements pursuant to specific quality standards, upgrading can be economically accomplished while generally preserving the basic concept of simplified operation. The Agency strongly believes that any large scale approach to replace ponds with mechanical plants would be ill-advised because the previously mentioned advantages of ponds for small communities must be sacrificed.

RELATIONSHIP TO INDUSTRIAL EFFLUENT LIMITATIONS

Comments were received which supported the position that less stringent suspended solids limitations should also be applied to industrial wastewater treatment ponds. Section 304(d)(1) of the FWPCA requires that EPA "publish information * * * on the degree of effluent reduction attainable through application of secondary treatment." The factors to be considered in setting effluent limitations for industrial discharges pursuant to section 304(b) of the FWPCA are distinct from the section 304(d)(1) criteria. In consideration of these statutory differences, EPA clearly has authority to establish different effluent limitations for municipal and industrial discharges with regard to the control of one or more pollutaht parameters.

ADJUSTMENT OF THE BIOCHEMICAL OXYGEN DEMAND (BOD) LIMITATIONS FOR PONDS

A number of comments suggested that an adjustment of the BOD limitations of 40 CFR 133 should also be allowed for wastewater treatment ponds. An equal number of commenters supported the position that the suspended solids limitation of 40 CFR 133 is the only parameter that properly designed and operated ponds cannot meet.

While there is not an extensive amount of routine monitoring data available to precisely define wastewater treatment pond performance, the majority of the State Agencies with responsibilities in this area expressed the belief during the development of the amendment that wastewater treatment ponds are generally capable of meeting the BOD requirements of 40 CFR 133.102. The Agency believes that adoption of the amendment, as proposed, will effectively ensure the continued acceptability of wastewater treatment as a secondary treatment process. It is important to recognize, however, that many of these facilities will still have to be upgraded to meet the BOD limitations of 40 CFR 133, which remain unchanged.

THE USE OF SUSPENDED SOLIDS AS A REGULATORY PARAMETER FOR WASTEWATER TREATMENT PONDS

Comments received from four State Agencies indicated that suspended solids limitations should be eliminated entirely as a regulatory parameter for wastewater treatment ponds. The Environmental Protection Agency recognizes that, because suspended solids limitations set in accordance with § 133.103(c) are to be based on a sampling of ponds which meet the BOD requirements of 40 CFR 133, BOD removal capability will be the major factor used in determining the adequacy of wastewater treatment pond designs. However, the statutory history of the FWPCA has been interpreted to require that standards for publicly owned treatment works include limitations on both BOD and suspended solids. Furthermore, EPA considers suspended solids to be a pollutant parameter for which regulatory control is important.

AVAILABILITY OF SUSPENDED SOLIDS MONITORING DATA

Several comments were received which supported the view that there is insufficient suspended solids monitoring data available to reliably establish alternative limitations for ponds in accordance with § 133.103(c). A number of other commenters provided actual monitoring data or indicated that such data is currently available. During the period of time since the amendment was proposed, the EPA Regional Offices have been requested to begin compiling data which could be used to establish suspended solids limitations for ponds in accordance with § 133.103(c). Efforts to date have indicated that sufficient data is available. Furthermore, preliminary determinations have demonstrated a reasonable degree of consistency nationwide.

REQUESTS FOR CLARIFICATION

Comments were received which requested clarification of the following aspects of the rule change:

(1) What types of wastewater treatment ponds are covered by § 133.102(c)? As indicated in § 133.102(c), adjustment of the suspended solids limitations may be made in cases where waste stabilization ponds are the sole process used for secondary treatment. Determination of the types of facilities to which § 133.103(c) can be applied will be in accordance with the terminology section of the EPA technical bulletin, "Wastewater Treatment Ponds" (EPA 430/9-74-011). Specifically included are photosynthetic and aerated ponds. The amendment is not applicable to polishing or holding ponds which are preceded by other biological or physical/chemical treatment processes capable of secondary treatment.

(2) Do the provisions of § 133.103(c) apply to new facilities? Yes, the suspended solids limitations for new wastewater treatment ponds can be set in accordance with the provisions of § 133.103(c). It must be recognized, however, design standards for new wastewater treatment ponds may be more stringent than those used in the determination of "best waste stabilization pond technology" in cases where the States or the EPA Regional Offices determine that such design standards are important for the overall reliability of new pond systems in that area.

(3) Does the amendment apply to the criteria for best practicable waste treatment technology? Yes, the criteria for best practicable waste treatment technology contained in Alternative Waste Management Techniques for Best Practicable Waste Treatment (EPA 430/9-75-013, October 1975), states that "publicly owned treatment works employing treatment and discharge into navigable waters shall, as a minimum, achieve the degree of treatment attainable by the application of secondary treatment as defined in 40 CFR 133." Unless specific revisions to the best practicable waste treatment criteria are published, or other applicable regulations are promulgated, the standards contained in 40 CFR 133, including the provisions of this amendment, will continue as the minimum requirements for treatment and discharge alternatives.

(4) Will specific guidance on implementation of the rule change be issued? As indicated previously, the EPA Regional Offices have been working on preliminary determinations for establishment of suspended solids limitations for wastewater treatment ponds in accordance with the proposed provisions of § 133.103(c). In most cases these efforts have been coordinated with the appropriate State Agencies. Draft guidance on procedures for actual implementation of the rule change has been circulated to the Regional Offices and will be finalized upon adoption of the amendment.

In consideration of the foregoing, Part 133 of Chapter I of Title 40 of the Code of Federal Regulations is amended as set forth below (section 304(d)(1) and 301(b)(1)(B) of the Federal Water Pollution Control Act Amendments of 1972 (33 U.S.C. 1342, 1345 and 1361)).

Dated: September 28, 1977.

DOUGLAS M. COSTLE,
*Administrator.*

1. Section 133.103 is amended by adding paragraph (c) as follows:

**§ 133.103 Special considerations.**

(c) The Regional Administrator (or, if appropriate, the State subject to EPA approval) is authorized to adjust the minimum levels of effluent quality set forth in paragraphs (b)(1), (b)(2), and (b)(3) of § 133.102 for treatment works subject to this part, to conform to the suspended solids concentrations achievable with best waste stabilization pond technology, provided that: (1) waste stabilization ponds are the sole process used

for secondary treatment; (2) the maximum facility design capacity is two million gallons per day or less; and (3) operation and maintenance data indicate that the requirements of paragraphs (b)(1), (b)(2), and (b)(3) of § 133.102 cannot be achieved. The term "best waste stabilization pond technology" means a suspended solids value, determined by the Regional Administrator (or, if appropriate, the State Director subject to EPA approval), which is equal to the effluent concentration achieved 90 percent of the time within a State or appropriate contiguous geographical area by waste stabilization ponds that are achieving the levels of effluent quality established for biochemical oxygen demand in § 133.102(a).

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